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A CASE OF ALMOST COMPLETE SELF-ENUCLEATION OF BOTH EYEBALLS.

BY JOHN F. FULTON, M. D., PH. D.,

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Month of June, 1884, Dr. Owens, of this city, referred to me a patient who had been sent to him from Winnipeg. He was a man, 38 years of age, with a good family history; up to a few months previous had been a man of good habits. The history of the trouble which resulted in the condition which I am about to describe, is as follows:

He had been on a protracted debauch for several days. While in this condition was arrested and thrown into jail. His attendant found, on going in to him in the morning, that he was completely blind, but nothing seems to have been done for his relief. He was sent to St. Paul two weeks after this, and as stated above was sent to my office by Dr. Owens of this city. Upon examination, I found both eyeballs torn from their sockets, hanging loose in the conjunctival sac. The cornea of both eyes had commenced to slough. The lids were contracted back of the eyeballs. The cilia of the lids were buried by

mucous secretions and tightly adhered to the conjunctiva. The conjunctiva was swollen, thickened, infiltrated, so that it was not easy to differentiate the different parts of the eye. Of course, at first sight it was seen that both eyeballs were entirely destroyed, which had been done by the patient thrusting simultaneously his thumbs into the external canthus of either eye, pushing them backwards to the apex of the orbit and shoving the eyeball violently forward.

The patient was perfectly rational when he came under my care, and gave a perfectly clear, distinct, and apparently reliable history of the whole affair. He was a man of much more than ordinary intelligence, and I have no doubt of the truth of all his statements. In order to spare him from going through the prolonged process of the eyeballs sloughing away, he was advised to have the operation completed, which he had done almost perfectly himself. The conjunctiva was nipped away from the eyeballs with a pair of scissors, the recti muscles were all found to be torn loose, and the optic nerves seemed to have been snapped off close to the commissure.

I am not aware that any case similar to this has been reported in ophthalmological literature. Mr. McKinley, in the recent meeting of the Ophthalmological Association of the United Kingdom, reports a case of a woman, 39 years of age, who had wrenched out one of her eyes with a meat-hook while under the influence of a terrible fit of depression. Mr. McHardy also reports a case somewhat similar to Mr. McKinley's in the last year's meeting of the same society, but almost complete enucleation of both eyeballs done by the individual himself, with no instrument other than his own thumbs, is certainly a unique case in ophthalmological history. The case is not without its practical bearings, as it indicates the care that should be taken of such individuals while in such a condition.

ON PHOTOGRAPHING THE INTERIOR OF THE HUMAN EYEBALL.

BY ELMER BARR, M. D., BUFFALO, N. Y.

Up to the present time, so far as I am able to learn, attempts to photograph the interior of the living human eye have not yielded very encouraging results. In the *Philadelphia Photographer*, of June 5, 1886, Drs. Jackman and Webster, of Coggestall, Essex, England, give the results of their experiments. They succeeded in showing the end of the optic nerve and an indistinct outline of a part of one or two large vessels.

The chief difficulty in obtaining a photograph of the interior of the eye, lies in the fact that the light reflected from the fundus consists almost entirely of red light; and it is well known that ordinary photographic plates are but slightly sensitive to red.

It occurred to me that it would be an improvement to use ortho-chromatic dry plates. With this idea I began experimenting to obtain a photograph of the interior of the living human eye, and the results are better than any others I have seen, showing the optic nerve and vessels quite well.

An ortho-chromatic dry plate is one which by a special treatment is rendered sensitive to green, yellow and red; the aim in artistic photography being to show the true gradation of tone in a photograph of an object reflecting these colors.

I first tried commercial ortho-chromatic plates, and although more sensitive to green and yellow, such a long exposure was necessary for them to be affected by red that it was impracticable to use them.

I then began experimenting with various formulæ to obtain a plate more sensitive to red, and although the results are

much better than those obtained with the commercial plates, they still fail to show the proper gradation of different depths of red, so that the large dark red vessels are not shown with their true distinctness.

The apparatus I have used is rather crude—being merely a modification of Carter's demonstrating ophthalmoscope—and doubtless better results might be obtained with specially constructed apparatus.

For a source of light an Argand gas burner is placed on one side and about eight inches from the concave reflector; an alum cell is placed before the light to intercept the heat rays. The reflector is of 7-inch focus,[1] and has a central opening of an inch in diameter; it is placed about 24 inches from the eye to be photographed.

About two inches in front of the eye to be operated upon is placed a lens to increase the illumination and to form an aerial image from the rays of light reflected from the interior of the eye. After many trials I decided to use a lens of 2-inch focus, as that gives good illumination and shows more of the fundus than would a lens of longer focus.

Behind the opening in the reflector is placed the camera. The arrangement I use consists of a metal tube carrying a lens, and arranged to slide within another tube having a plate holder at its end; the image is focused by sliding back and forth the tube with the lens.

The lens in the camera has a focus of only three inches, and this I think is important, for it makes a very bright image, and consequently a short exposure—six to ten seconds—is sufficient. The image formed is so small that enlargement is necessary when printing from the negative, but in this process time is not so important an element as when making the exposure, for few persons can hold the eye many seconds without movement.

The plates employed are extra rapid dry plates. They are

[1] A reflector of longer focus would be better, as a condenser could then be used in front of the light, thus increasing the illumination.

rendered ortho-chromatic by bathing for one minute in a solution of erythrosin, washed well under the tap and allowed to dry. They must not be used until dry, but as soon after drying as possible, as they keep but a short time.

The erythrosin bath I make as follows:

Erythrosin,	1.
Distilled water,	1500.
Solution silver chloride in ammonia, (gr. xxv.–ʒj)	$^1/_3$
Stronger ammonia,	1

Mix.

In developing I use the pyro and ammonia developer, and pour on the bromide and ammonia first, to prevent fogging. Ferrous oxalate developer may be used if the plates are first soaked 30 seconds in

Potassium bromide,	gr. lx
Ammonia,	ʒij
Water,	ʒvj

Development is commenced in the dark, but after it is well started a red light may be used in which to finish the operation.

The image is so small that details cannot be seen by a weak light so that the operator must judge by the general appearance of the image and by the length of time of development—five to ten minutes—as to when the process is complete.

THE AMERICAN OPHTHALMOLOGICAL SOCIETY. TWENTY-THIRD ANNUAL MEETING.

The twenty-third annual meeting of the American Ophthalmological Society was held at the Pequot House, New London, Conn., on Wednesday and Thursday, July 20 and 21, 1887.

First Day.—Morning Session.

The meeting was called to order by the president, Dr. William F. Norris, of Philadelphia.

Under the head of unfinished business the following were elected to membership, Drs. J. B. Emerson, New York; H. F. Hansell, Philadelphia; J. O. Tansley, New York; M. Hayward Post, St. Louis, and Edmund C. Rivers, Denver, Col.

A memoir of Dr. Ezra Dyer, of Newport, R. I., one of the founders of the society, was read by Dr. Hasket Derby, of Boston, and referred to the publication committee.

The death of Dr. William S. Little, of Philadelphia, was also reported.

Report of Thirty-Six Cases of Simple Extraction of Cataract Without Iridectomy. By Dr. C. S. Bull, of New York.

Of these 36 cases 20 were males and 16 females. In 24 the cataract was hard and senile, in 11 it was traumatic and soft or semi-soft, and in one it was of secondary origin. There were corneal maculæ in 3 cases, tremulous iris in 7, old choroiditis in 5, and irido-choroiditis in one. Careful antiseptic precautions were adopted in all the operations.

The operation was done with the patient lying in the bed he was to occupy after the operation. The speculum was employed in every case. The knife was long and narrow, nar-

rower than that of Von Graefe. It was quickly passed across the anterior chamber, the flap measuring about two-fifths of the corneal circumference. Prolapse of the iris did not usually occur but if it did, it was allowed to remain until the extrusion of the lens. The capsule was then opened by a quadrilateral incision and by pressure the lens was caused to pass out of the corneal wound. If reduction of the iris did not occur spontaneously it was reduced with a spatula. All soft lens matter was washed out with the antiseptic solution and one drop of a solution of eserine instilled of the strength of one grain to the ounce of a saturated solution of boracic acid. The lids were then closed and an antiseptic dressing applied. If the eye did well the bandage was not removed for two days, but the eserine solution was instilled twice daily under the bandage. At the end of two days the bandage was removed and the eye washed. The lids were not opened for four days unless there was some indication for it. If at the end of this time the appearance was favorable eserine was reinstilled and the bandage applied for another day when it was removed altogether.

The healing process was usually favorable; there was no suppuration in any case. There were six cases of plastic iritis of a mild type and two cases of irido-cyclitis. In the first thirty cases there was no incarceration of the iris. In the last six cases in the treatment of which the same care was manifested, incarceration occurred in every instance. The average duration of the treatment was a little more than twenty days. A secondary operation, usually a needling or a laceration of the posterior capsule, was required in twelve cases. Prolapse of the vitreous occurred in four cases and dislocation of the lens downward in two cases. Eserine was not used after the healing of the cornea. The degree of acuteness of vision obtained was as follows: $^{20}/_{xxx}$ in 2 cases, $^{20}/_{xl}$ in 8 cases, $^{20}/_{l}$ in 8 cases $^{20}/_{lxx}$ in 10 cases, $^{20}/_{c}$ in 5 cases and $^{20}/_{cc}$ in two cases. In one case the eye was blind before operation as the result of irido-cyclitis.

The technique of the operation is more difficult than where

iridectomy is performed. The knife must pass rapidly in order to prevent injury to the iris. The extraction of the lens is more difficult and the danger of prolapse of the vitreous is more imminent.

DISCUSSION.

Dr. H. Knapp, of New York, had, during the past year, performed Panas' operation sixty-eight times. Following the operation there was mild iritis in three cases, severe iritis with closure of the pupil in one case, protrusion of the iris in three cases, incarceration of the iris without protrusion in two cases, capsulo-iritis in one case, and suppuration in one case. This was secondary to an old disease of the eye. In twenty-seven cases a secondary operation was performed. In one case he performed the operation in a man much addicted to drink. The operation was successful, but there was slight wrinkling of the capsule. In the fourth week a simple division of the capsule was made. For twenty-four hours there was not a trace of reaction. The following night he had an attack of acute iritis with dysentery, and the urine was loaded with albumen. The next day there was circum-corneal injection, and the ball was very hard. Eserine reduced the tension but did not contract the pupilla. On the third day the ball was as hard as it is in any case of acute glaucoma. An iridectomy was then made and the patient recovered.

Report of a Series of One Thousand Successive Cases of Extraction of Cataract with Iridectomy. By Dr. H. Knapp, of New York.

These one thousand cases were operated on during the years from 1866 to 1886. A tabular statement was given showing the results obtained in each series. V=$^{20}/_{cc}$ to $^{20}/_{xx}$ was considered a good results; V=$^{21}/_{cc}$ to $^{1}/_{cc}$ was considered a moderate result and where V= less than $^{1}/_{cc}$, the case was regarded as a failure.

In the first series of cases, the method of extraction was by

a very peripheric section more curved than lineal, with the following results: good, 70% ; moderate, 22% ; failures, 8%. Of the failures 3% were from suppuration. In the second series a peripheric linear section was employed. Results, good, 86%; moderate, 12%; failures, 2%, all from suppuration. In the third series, linear section was employed. Results good, 86%; moderate, 9%, and failures 5%, 3% of which were due to suppuration. The fourth and fifth series were performed by peripheric linear section with removal of the anterior capsule. Results, good, 82%; moderate, 5%, and failures 11.5%, of which 8.5% were due to suppuration. In the sixth series, in which peripheric linear incision with peripheric capsulotomy was performed, the results were, good, 89%; moderate 1%, and failures 10%, of which 8% were due to suppuration. The seventh series was operated on by the same method only the section was less peripheral. Results good, 88% ; moderate, 7% ; and failures, 5%, of which 2% were due to suppuration. The eighth series was operated on by circular marginal section with peripheric capsulotomy and with antiseptic precautions. Results: Good, 90% ; moderate, 8%, and failures 2%, of which 1% was due to suppuration. The ninth and tenth series of cases were operated on in the same way with the following results: Good, 90.5% ; moderate, 5.5% ; failures, 4%, of which 3% were due to suppuration. The results obtained, taking the one thousand cases as a whole, were: Good, 85.2% ; moderate, 9% ; failures, 5.93%, of which 3.8% were due to suppuration.

Does Sunstroke Affect the Sight Permnently? By Dr. J. A. Spalding, of Portland.

The author introduced the question of the permanent effects of insolation (or sunstroke) upon vision. So many pension claimants were now coming forward, asserting that they suffered from sunstroke and permanent loss of sight in the army, and finally became more or less blind, that it is quite desirable for the expert in examining such cases to be supported by greater authority than he is likely to discover in any text-

books or accessible literature. In point of fact, there has never been reported in the vast extent of ophthalmic literature but a single undeniable case in which sunstroke has been followed by permanent blindness, and only six others in which the eyes were ophthalmoscopically examined soon after the attack. In all of these optic neuritis was distinctly marked, and in several vision was reduced to a low degree; yet ultimately, all six recovered perfect vision without much if any treatment.

Two or three cases illustrative of the assertions of pension claimants were presented in the paper, and the precise reasons for granting or not granting a pension were reported in full. Judging from the history of these cases insolation had nothing whatever to do with the loss of sight; whilst from historical and scientific records it appears extremely doubtful whether the disease ever has any permanent effects on the sight.

The frequent allegations of patients losing their sight during a sunstroke or of "a dimness coming over their eyes" are simply descriptive of the incipient stage of unconsciousness and are untruthful in a scientific point of view. These recollections become in later years the basis of pension claimants' assertions that their vision was seriously affected by sunstroke.

Dr. Spalding expressed the opinion that these were false, and hoped that the members would support expert examiners against the insults of politicians and claimant's friends in refusing to grant pensions for asserted blindness fifteen or twenty years after a sunstroke.

A Case of Probable Quinine Amaurosis. By Dr. D. B. St. John Roosa, of New York.

The patient was a young lady who had been living in a malarious district. While in Washington she had an attack of intermittent fever. Some time after this she was seized with convulsions and unconsciousness. It was believed to be a case of malarial coma, and thirty grains of sulphate of quinine were administered by the rectum on four occasions. On the third

day consciousness was restored, but she was then unable to distinguish light from darkness. The pupils were dilated. She had been taking quinine and iodide of potassium before I saw her, which was October 18, 1886. Vision was slightly recovered and she could count fingers at four feet. On ophthalmoscopic examination the optic papillæ were found small, the vessels very small, but no exudation was seen. Quinine three times a day with a hypodermic injection of strychnia was given. The dose of strychnia was gradually increased to $^{1}/_{24}$ of a grain and kept at that for some time. Vision gradually improved. It was at first eccentric, but by December 10 she had central vision of $^{20}/_{1XX}$. The papillæ were still white and the vessels small. The treatment was continued. She returned to her home and now states that she can see almost as well as she ever could. The urine was tested in this case several times with negative results.

Discussion.

Dr. Emil Gruening, of New York, remarked that in the latter part of June he saw a lady, 30 years of age, who had been given thirty grains of quinine in one dose. When she awoke in the morning she was blind and deaf. She was deaf for about twelve hours and absolutely blind for twenty-four hours. He saw her about five days after the attack. The fundus was apparently perfectly normal in both eyes. Central vision was normal, but the field was much contracted in all directions. It does not seem that the ischæmia which has been described in the more severe cases should necessarily be present in the lighter cases of quinine amaurosis.

Clinical Contributions to the Study of Ring Scotoma. By Swan M. Burnett, M. D., of Washington.

The speaker gave the histories in full of two cases of ring scotoma which he had followed for the space of two years. In one case there was a history of syphilis and in the other not; in both there was choroiditis with vitreous opacities. In one

case there were no gross changes in the choroid; in the other the changes did not correspond with the defect in the visual field. In one case only one eye was affected; in the other the affection was binocular. In one case the trouble began as a typical right hemianopsia with left semi-annular scotoma. The central clear spot more or less oval in form 10° x 20° was never through all the changes diminished in size. All who have written on the subject (a full bibliography was appended to the paper) have placed the pathological process inside of the eye, though in none have the changes in the choroid manifest under the microscope been sufficient to warrant such a conclusion, and in none have the changes in the form of the visual field been followed so closely or so long as in these cases, eighteen diagrams of the fields at various times being exhibited. The course of the nerve fibres in the tract, chiasma, and nerve as demonstrated by Bunge, Samelsohn, Leber, Vossius and others particularly in the somewhat analogous condition of central scotoma which in nearly every instance coincided in form and size with the central clear space in these cases, seems to justify the assumption that the fibres supplying the intermediate parts of the retina were hindered in their function either from a localized neuritis or by pressure of the adjoining parts.

Discussion.

Dr. Henry D. Noyes, of New York, reported the case of a young lady, aged 17, who came to him complaining of pain and dimness of sight in one eye. The ophthalmoscope showed no material lesion, but with the perimetre he discovered a ring scotoma. There were no local lesions, no symptoms of brain trouble and no evidences of hysteria. Further examination showed signs of orbital neuritis. He based this view chiefly on the fact that pressure of the globe backward elicited unquestionable pain. This continued for at least two weeks. The ring scotoma subsequently entirely disappeared and vision was restored to the normal. He was satisfied that

ring scotoma may have an extra-ocular origin. When we search for these cases more carefully I think that we shall find that they are not so extremely rare as has been supposed.

Dr. C. S. Bull, of New York, said that some time ago he had reported a case which would come under the same category as those of Dr. Burnett. The patient, a man 36 years of age, when two years of age injured the right side of the skull by a fall. Vision of right eye was impaired and a convergent squint followed. He could count fingers at two feet with the right eye. In 1878, he had a compound depressed fracture over the left parieto-occipital region of the skull. Trephining was resorted to. This was followed by convulsions which have since grown less marked. He noticed that he could not see through a part of the field of the left eye. The ophthalmoscope shows a neuro-retinitis of low grade in the left eye. The field was normal for twenty degrees around the point of fixation. Then there was an irregular defect in the field for fifteen to twenty-five degrees all around, and outside of this the field was normal.

Dr. W. F. Mittendorf, of New York, remarked that attention has recently been called to the fact that peripheral annular scotomata are often present in cases of chronic glaucoma. He had examined five or six cases of glaucoma with this in view, and had found it in one instance.

Dr. O. F. Wadsworth, of Boston, said that a case which he recently published seems to show that the lesion in these cases may be situated in the nerve. A young man, aged 23, was run over by a heavy wagon, one wheel passing over his chest. He was seen forty-eight hours later. There was slight haziness of the retina and some slight, thin hemorrhage in the right retina. There was a central scotoma. In a short time the scotoma resolved itself into a ring scotoma. This condition continued for at least two years afterwards. There was absolutely no ophthalmoscopic change to be detected.

The So-called Orthopædic Treatment of Paralysis of the Ocular Muscles. By Dr. C. S. Bull, of New York.

Reference was made to the fact that the use of galvanism in the treatment of paralysis of the ocular muscles was unsatisfactory on account of the impossibility of localizing the current to the affected muscle. The method of Prof. Michel was then described. In this plan the muscle is seized with fixation forceps and the eyeball moved backward and forward in the direction of the ordinary action of the affected muscle. This procedure produces some pain and slight irritation. The pain is largely relieved by the use of cocaine. The speaker had employed this method in twenty-one cases of ocular paralysis due to various causes. The paralysis was entirely cured in eight cases; partially relieved in seven cases, and in six the treatment was entirely valueless.

Recurrent Paralysis of the Motor Oculi. By Dr. O. F. Wadsworth, of Boston.

The patient was one of twins, Pauline and Francis, born of healthy parents. In June, 1874, when the twins were three years of age, they had scarlet fever, and this was followed by a discharge from the ear. In each case a slight discharge from one ear continued. In 1877 Francis began to complain of headache which recurred frequently until three months later when she had a convulsion. The convulsions were repeated. Six months after the first convulsion she complained that she could not see. Examination showed well-marked optic neuritis. The headache and convulsions gradually ceased, but she remained blind. She was again seen in 1879 and found to be in good health, with the exception of the blindness.

Pauline after the attacks of scarlet fever in 1874, had headache recurring every month or so. On February 24, 1879, she was brought to the hospital with the history that she had suffered with daily pain in the head for two weeks. This was referred to the supra-orbital region. It would commence about noon, then intermit, recur again about 5 o'clock and continue

for several hours. There was vomiting on the first two days of the attack and there was a slight discharge from the right ear. She was seen one month later. The headaches had recurred every two or three days. There was then paralysis of all the branches of the right motor oculi nerve with ptosis and divergence of the right eye. By February, 1887, the headaches had diminished in frequency and for the last few years she has had three or four attacks a year, the more severe being accompanied by ptosis and dilatation of the pupil. It was subsequently learned that with each severe attack there was a free discharge of ill-smelling fluid from the right ear. On May 1 the right ear was examined and a polypus filling the meatus found and removed.

The writer had been able to find only fifteen cases of this affection on record. Of this number four were males and eleven females. The period between the attacks was variable and irregular. In several instances there was evidently a persistence of a certain amount of paralysis between the attacks. This was noted in the case just described. There has been no instance of permanent relief, and three of the cases have terminated fatally.

As to the cause of the affection, the results of the autopsies point to a basal origin. In one case, plastic exudation surrounded the right motor oculi nerve; in another case the right oculo-motor nerve was pressed upon at its point of emergence from the crus cerebri; and in the third case there was a fibrochondroma which had developed in such a way as to separate the fibres of the right oculo-motor nerve without destroying them. In the case reported, the speaker thought that there was an evident association of the paralysis with the chronic aural trouble.

Hyperæmia in Muscular Insufficiency. By J. A. Lippincott, of Pittsburg.

The speaker reported several cases of localized hyperæmia of the eye which he thought were due to weakness of the muscles. The grounds on which he based this view were the form

and location of the spot of hyperæmia and its disappearance along with other evidence of the muscular insufficiency.

The society then adjourned until 8 o'clock in the evening.

Evening Session.

Cases of Acute Primary Glaucoma, of Hæmorrhagic Glaucoma, and of Secondary Glaucoma. By Dr. W. F. Norris of Philadelphia.

Case I.—A married woman, æt. 52 years, who was admitted to the Will's Eye Hospital with acute glaucoma of the left eye. The attack was of twelve day's duration. Vision was much impaired. The right eye was entirely quiet and presented a narrow iridectomy upwards. In August, 1875, a severe attack of glaucoma had suddenly occurred in the right eye, and on the fifth day iridectomy had been performed. Since then the eye had given no trouble. When admitted to the hospital the patient was in a feeble condition. She was put to bed, a leech applied and eserine instilled. The eye improved and became quieter. The cloudiness of the cornea and the other symptoms remaining, iridectomy was performed twenty-eight days from the commencement of the attack. A year later she had a severe attack of pain not relieved by eserine and sclerotomy was performed. The eye continued to give trouble from time to time, and it finally became necessary to enucleate it.

Case II.—Primary hæmorrhagic glaucoma. Miss B., aged 70 years, was seen in February, 1867, with marked hæmorrhagic retinitis and incipient cortical cataract. She stated that she had a sudden loss of vision two years previously. The present attack of loss of vision came on suddenly ten days before when the patient was stooping. Examination showed numerous hæmorrhages into the retina. One month later the right eye was more cloudy, the tension increased, and there was some hæmorrhage into the anterior chamber. Iridectomy was then performed. The wound did well until the fourth day, when there was a sudden attack of pain. On the ninth day, apparently without exciting cause, this symptom recurred.

After this there would be an exacerbation every few days. The eye-ball was subsequently enucleated, the patient dying a year or two later with apoplexy.

CASE III.—Secondary glaucoma after successful operation for cataract. A man, aged 66 years, had been operated on for cataract in both eyes sometime before coming under observation. This had been done in England, both operations having been successful. Some eighteen months later, the right eye had been operated on by a needle operation, and since then it had not been free from irritation. When seen the right had lost the perception of light and the left eye presented signs of sympathetic irritation. The right eye was enucleated, and this relieved the irritation in the left eye. The patient now sees fairly well.

A number of micro-photographs showing sections of the eyes removed in these cases were exhibited by means of a lantern.

Dr. B. Alexander Randall Presented the Notes of a Case of Sarcoma of the Eyelid, Simulating a Meibomian Cyst, occurring in a man about 41 years of age, who came under observation in 1885, with the history of two operations in the previous three years for the removal of a cyst. The tumor had the position, size, color and apparent fluctuation of a chalazion, but a vague grayness, suggested pigmentation, and led to its total removal by a V-shaped incision through all the tissues of the lid. Sections proved the tumor to be a solid encapsuled sarcoma of large spindle cells. The patient passed out of sight for two years, and then returned with recurrence very like the original which had been treated in the interim as chalazion. The outer half of the lid had now to be removed and the tumor was found to be of the same nature as before and again encapsuled. The Meibomian glands at both operations seemed to be entirely normal, and the tarsus was entirely uninvolved.

Dr. Randall also presented some ophthalmoscopic cases of *cilio-retinal vessels* with the remark that they were far

from rare and that the occurrence of such an origin of even a principal artery or vein, supplying different quadrants of the retina, had come to notice. As to the origin of these vessels in two cases they could be distinctly seen to join the net work of the choroid. The reported cases examined anatomically have been seen to arise directly from a short ciliary vessel. Photo-micrographs of such a case in the collection of Dr. Wm. F. Norris, were shown.

Dr. Randall also called attention to the *Hohlschnitt of v. Jaeger* in cataract extraction as differing in no way essential from the modified linear operation, except in the knife with which it is made. He asked attention to the knife with the claim that with it almost all the usual modifications of the linear extraction could be made, but that no aqueous need be lost until the completion of the incision, and consequently that the cut could be made more safely and smoothly than was possible with the Graefe knife. As illustrative of the perfection of the healing, he demonstrated a photo-micrograph of a *Hohlschnitt* executed by v. Jaeger himself, which he had prepared in Prof. Arlt's laboratory about a year after the operation.

DISCUSSION.

Dr. H. Knapp, of New York had used Jaeger's knife, but had not found the advantage which the author had claimed. It is simply a modified small Baer's knife. In his experience it has been more difficult to pass a large knife through the anterior chamber than it is to pass a Graefe knife. By practice the section can be completed in one cut by the Graefe knife but he did not consider this necessary.

Dr. H. D. Noyes, of New York, agreed with the last speaker as to the greater facility in passing a narrow knife. A narrow Graefe knife gives better control of the movements necessary in making a proper section than any other knife which he had tried.

Dr. S. Theobald, of Baltimore, thought that probably the greater facility in the use of the narrow knife over the triangular knife may be due to the fact that in using the latter, we are doing two things at once. We are attempting to pass it across the anterior chamber and at the same time to complete the section. With the Graefe knife we transfix the eye and then make the section.

Adjourned.

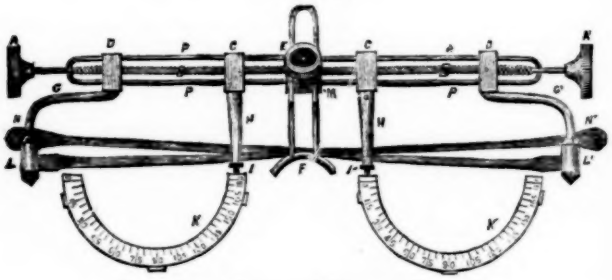
[TO BE CONTINUED.]

DR. L. W. FOX'S TRIAL FRAME.

Manufactured by
THE GENEVA OPTICAL CO., GENEVA, N. Y.

We have received from this enterprising firm a sample of Dr. L. W. Fox's trial frame, and can highly recommend it to our confrères, as being all they claim for it and a decided improvement on their former heavy frame. The following is an accurate description.

FIG. 9.



FRONT VIEW.

In this frame a right and left hand steel screw B B is between two steel rods P P P P. The rods serve as guides to keep the parts in line and secure rigidity and strength.

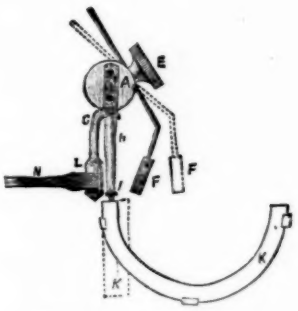
The nose rest F is faced with shell and has movement up and down and in and out as shown in Sectional View, and is clamped in place securely by set-screw E.

The temples N N are hinged to arms G G. The lens-holders K K are attached to lugs C C in such a manner that they swing in a horizontal plane on shanks I I, as shown in Sectional View. This swing motion to the eye allows that without removing the frame from the face, the operator can bring either lens-holder forward to exchange lenses or from in front

of the eye to show the difference with and without lenses, leaving the other eye covered.

The lens-holders K K are each made to receive three lenses or when a desired combination of two has been made they may be left in position and vision cut off by the insertion of the solid disc while testing the other eye.

FIG. 10.



SECTIONAL VIEW.

This frame makes a perfect pupilometer by placing in the back cell of both eyes a metal disc with small hole in the centre then directing the attention of the patient to some object turn the milled heads A A until binocular vision is secured and it seems there is but one hole as the images overlap on the retina. This will give the correct pupiliary distance. Then if the nose-rest is adjusted so that when the patient is looking through the holes the nose-rest is where the spectacle frame should be placed, this will give the height of crest of nose above the centers of the lenses, and swing the nose-rest so that the discs are as near the eye as the spectacle lenses should be and the position of the crest of the nose with reference to the plane of the lenses will be given. All these measurements can be read on scales in the box to which the frame can be fitted.

Most of the advantages of the frame can be inferred from the above description. It is very strong and light, weighing but $1^{1}/_{4}$ oz. It can be adjusted to about one-half inch nar-

rower pupillary distance than any other and yet give space for nose; this and the in and out adjustment to the nose-rest are valuable improvements, but it is the swing lens-holder that gives it the greatest advantage over others.

No. 916. Price for Frame, - - - - - - $12 00

" " Case with scales for prescribing measurement of spectacle frames giving pupillary distance, height of nose and position of crest of nose front or back of plane of lenses, extra, 1 00

In ordering, state if wanted with case or without.

We have also for some time used a set of trial glasses from the same firm, and can highly recommend it.

CORRESPONDENCE.

MINNEAPOLIS, MINN., July 9, 1887.

EDITOR AMERICAN JOURNAL OPHTHALMOLOGY.—In the article "International Congress" in the last number of the AMERICAN JOURNAL OF OPHTHALMOLOGY I find an error which I think should be traced back to from where it emanated and there corrected. Among the members of the council in the Ophthalmological Congress is Dr. Ole Bull, of Christiania, "*Sweden.*" We all know that Christiania is the capital of the kingdom of *Norway* and I am sure Dr. Bull would not like to give up his nationality even in an International Congress.

If you would help to have this little error corrected, you would surely oblige Dr. Bull and fifty Norwegian doctors in the Northwest. Yours truly, KARL BENDEKE, M. D.

INTERNATIONAL CONGRESS.

GENERAL PROGRAMME OF THE CONGRESS.

FIRST DAY—MONDAY, SEPTEMBER 5.

The Congress will assemble at Albaugh's Opera House at 11 A. M., and will be formally opened by the President of the United States, to be followed by a short address of welcome by the Secretary of State; address by the president of the Congress; report of secretary-general and chairman of Committee of Arrangements. Adjourn at 1:30 P. M. From 3 to 6 P. M., meeting of the Sections at their respective halls. Evening *conversazione* at U. S. Pension Hall from 8 to 11 P. M.

SECOND DAY—TUESDAY, SEPTEMBER 6.

Meeting at 10 A. M. at Albaugh's Opera House. General addresses by Drs. Flint and Semmola. Sections will meet at 11 A. M., and adjourn at the same hour with Congress at 1 P.M. In the afternoon the Sections will meet from 3 to 6 P. M. In the evening it is expected that a reception will be given by the President of the United States, and the Corcoran Art Gallery will be thrown open to the members and their families.

THIRD DAY—WEDNESDAY, SEPTEMBER 7.

The Congress will meet at 10 A. M. General addresses until 1 P. M. The Sections will meet as usual at 11 A. M., and adjourn at 1 P. M. Afternoon meeting of the Sections from 3 to 6 P. M. Evening reception to the members and their families by the citizens of Washington.

FOURTH DAY—THURSDAY, 8.

General meeting at 10 A. M. Addresses, if not previously delivered. Meeting of the Sections at 11 A.M., adjourn at 1 P. M. Afternoon, Sections meet from 3 to 6 P. M. General reception buffet banquet at U. S. Pension Hall from 8 to 11 P. M.

FIFTH DAY—FRIDAY, 9.

General meeting at 10 A. M. Transaction of business affairs of Congress. Meeting of Sections at 11 A. M., and adjourn at 1 P. M. Afternoon, Sections meeting from 3 to 6 P. M.

SIXTH DAY—SATURDAY, 10.

General meeting at 10 A. M. Adjourn at 11 for visit to Mt. Vernon.

On Sunday or Monday, the day not yet determined upon, an excursion train will leave Washington with the foreign members and their families for Niagara Falls, under the escort of a part of the committee of arrangements, selecting the

route which will afford our foreign brethren an opportunity to see some of the most interesting and thrifty portions of our country, as well as very beautiful scenery.

In completing the details of this programme it may be necessary to make some slight modifications.

ALEX. Y. P. GARNET, M.D.,
Chairman of Committee of Arrangements.

RAILWAY RATES TO WASHINGTON.—The Railroad Associations which have already agreed to make a reduction of fare for members of the Congress and their families on the roads under their control are:

The Trunk Line Association.
The Central Traffic Association.
The Newport News and Mississippi Valley Company.
The Southern Passenger Association.

These cover the greater part of the territory east of the Missouri and Mississippi rivers. The whole list of roads controlled by these associations is too large for publication, but members can obtain all the necessary information by application to the railroad agent at the starting point. It will be required to pay full fare to Washington, and a return will be allowed for "one-third the highest limited fare" on the association's certificate. It will be necessary for these certificates to be procured before starting and have upon them the receipt of the railroad agent for the full fare to Washington. Members intending to attend the Congress should, as soon as possible, make application to the undersigned for blank certificates of the association over whose road they intend to travel, and the blanks will be forwarded at as early a date as they can be obtained. A separate certificate will be required for each person.

J. W. H. LOVEJOY, M.D.,
Chairman Transportation Committee.
No. 900 12th St., Washington, D. C.

DUTY ON EXHIBITS FOR THE CONGRESS.

[The following portion of a letter from the Secretary of the Treasury to Dr. John B. Hamilton, Secretary-General of the Ninth International Medical Congress, is of especial interest to our foreign confrères who wish to attend the Congress:]

The professional books, implements, instruments * * * of persons arriving in the United States are exempt from duty under the provisions of the tariff law, which also provides for the free admission of "models of inventions and other improvements in the arts, such as cannot be fitted for use," and parties arriving from foreign countries for the purpose of attending the Ninth International Medical Congress, to meet at Washington September 5, 1887, and who bring with them their own "surgical or dental instruments, scientific and mechanical appliances, models and materials to be used for clinical demonstration under the direction of said Congress," will be entitled to have the same passed *free of duty*, on the usual oath that they are for their personal use and not intended for sale.

As it would appear from the act of Congress relative to said convention that the Ninth International Medical Congress is a society established for philosophical and scientific purposes—books, maps and charts (not more than two copies in any one invoice), philosophical and scientic apparatus, instruments and preparations, casts, paintings, drawings and etchings, specially imported in good faith for the use of said Congress and not intended for sale, would also seem to be entitled to free entry under the provision of the tariff act now in force, a copy of which is herewith enclosed. (See paragraphs 660, 759 and 815.

Copies of this letter will be transmitted to the collectors at the principal ports for their information and guidance.

Respectfully yours,

(Signed) C. S. FAIRCHILD,
Secretary of the Treasury.

THE BRITISH MEDICAL ASSOCIATION.

This association holds its fifty-fifth annual meeting at Dublin, August 2, 3, 4 and 5.

The Ophthalmological Section is presided over by the following officers:

President—H. R. Swanzy, M. B. Vice-Presidents, D. Argyll Robertson, Pres. R. C. S., Edin.; Priestley Smith, M. R. C. S. E.; Honorary Secretaries, A. H. Benson, M. B., 42 Fitzwilliam Square, Dublin; A. W. Sanford, M. D., 13 St. Patrick's Place, Cork.

The subject for discussion is The Etiology and Treatment of Convergent Concomitant Strabismus, which will be introduced by Mr. Simeon Snell, of Sheffield. Drs. Jeffreson, Cowell, McHardy, E. Meyer, E. Nettleship, Wood White, P. H. Mules, W. A. Brailey, Vose Solomon, F. Mason, R. Williams, Walter H. Jessop, W. Lang, E. Juler, W. Charnley, Henry Eales, Frank Hodges, F. O'Devaine, and Argyll Robertson will take part in the discussion.

The following papers are promised:

Benson, Arthur H., F. R. C. S., Dublin, on the Treatment of Stenosis of Lachrymal Duct by Removable Styles.

Berry, George, M. B., Edinburgh, on Amblyopia, Diplopia, and the Etiology of Strabismus.

Bickerton, T. H., Esq., Liverpool, on Color-Blindness, with Especial Reference to its Prevalence Among Sailors

Bull, C. S., M. D., New York, (subject of paper not received).

Charnley, W., Esq., A New Point in Astigmatism.

Frost, W. Adams, F. R. C. S., London, on Squint.

Glascott, C. E., M. D., Manchester, (subject of paper not yet received.

Hewetson, H. B., Esq., Leeds, on Amblyopia from Lead-Poisoning (illustrated); nine cases.

Jessop, Walter H., Esq., (subject of paper not received).

Jones, A. Emyris, M. D., Manchester, on Atrophy of the Optic Nerve, Associated with Dropping of Fluid from the Nostril.

Landolt, Dr., Paris, on the Re-establishment of Binocular Vision after Strabismus Operations.

Little, David, M. D., Manchester, Operative Treatment of Lamellar Cataract.

Mules, P. H., M. D., Manchester, on Squint.

Smith, Priestley, Esq., Birmingham, on Neurasthenic Amblyopia.

Taylor, Charles Bell, M. D., F. R. C. S., Ed., Nottingham. 1. Five Hundred Cases of Cataract Extraction without Iridectomy. 2. A New Operation for Internal Squint. 3. On the Treatment of Lachrymal Obstruction without Incising the Canaliculus.

Uhthoff, Dr., Berlin, Demonstrations of Preparations Relating to (1) Chronic Alcoholism, in its Relation to the Eye; (2) Ophthalmoplegia; (3) Paralysis of Orbital Muscles.

Williams, Richard, M. R. C. S., Eng. Liverpool, on the Actual Cautery in the Treatment of Conical Cornea.

Communications have also been promised by Dr. Karl Grossman, Liverpool; Dr. Lloyd Owen, Birmingham; and Mr. E. A. Browne, Liverpool.